

Salem Sound Coastwatch (SSCW)
DRAFT Scope of Work: July 1, 2018 to June 30, 2019
as Lower North Shore Regional Service Provider to Massachusetts Bays National Estuary Program

The Massachusetts Bays National Estuary Program's Workplan for Federal Fiscal Year 2018 focuses on the following desired outcomes for the Bays:

- Sustainable National Estuary Program.
- Improved habitat continuity and hydrology.
- Improved water quality.
- Resilient coastal habitat and nature-based coastal protection.
- Restored natural communities.
- Robust collaboration and partnerships.
- Well-informed, multisector input to decisionmaking.

These outcomes are based on the Goals, Strategies, and Outcomes approved by MassBays' Management Committee for its Comprehensive Conservation and Management Plan (CCMP).

SSCW will implement the programs and projects below to contribute toward these overarching outcomes, utilizing approaches and partnerships specific to the Lower North Shore region. A Lower North Shore Regional Coordinator (RC) will convene and support a Local Governance Committee, which in turn will serve as advisors to the RC's efforts in carrying out the work described here.

Workplan tasks

Outcome: Sustainable National Estuary Program

Task 1	Solicit and provide comments on Revised CCMP and Attachments	
Description/Objective	MassBays Central Staff will complete draft and final versions of the Revised CCMP (pdf and online), subject to timely review and approval by EPA	
SSCW Actions	Deliverables	Timing (Q1-4)
Facilitate LGC review of draft CCMP	Meeting date(s), and attendee list(s).	Q1
Distribute announcement of availability and call for comments provided by Central Staff	List of audiences/networks contacted.	Q2
Provide input to Communications, Finance, and Monitoring Plans	Participate in at least one Subcommittee to the Management Committee tasked with preparing Attachments to the CCMP	Q1
Provide comments on CCMP to facilitate its long-term implementation in Cape Cod Bay	Written comments submitted	Q2

Task 2	Reporting for EPA	
Description/Objective	Reporting to MassBays Central Staff, engaging LGCs & regional stakeholders; promoting MassBays in local communities; attending staff and management committee/subcommittee meetings; assisting the LGC with meetings and activities; and addressing requests for technical assistance or outreach.	
SSCW Actions	Deliverable	Timing (Q1 - 4)
Maintain workflow according to scope of work	Reports and deliverables to MassBays central staff	monthly
Provide updates to MC	Quarterly reports to MassBays central staff, coinciding with MC meetings	Q1-4
Participate in MassBays MC and RC meetings	Attendance and participation in meetings	bimonthly
Participate on at least one MC Subcommittee	See Task 1	ongoing
Convene LGC to review progress and proposed workplan	Proposed FFY2019 workplan	Q4
Represent MassBays in regional associations and societies	List of associations and societies where MassBays is represented	Q4
Promote MassBays in local community settings	List of presentations and publications	Q4

Task 3	Provide region-specific education and outreach to inform and educate the public and stakeholders	
Description/Objective	Communicate about Lower North Shore-based activities to the public, including LGC members and other partners, featuring MassBays' support. Project descriptions will be disseminated via multiple outlets, including presentations, newsletters, and websites. All references to funding will cite "Massachusetts Bays National Estuary Program" or "MassBays," and include relevant EPA grant number(s).	
SSCW Actions	Deliverable	Timing (Q1 - 4)
Prepare and provide presentations, articles, etc.	List of publications and presentations by name, venue or publication, and date	Q4
Update SSCW webpage references to MassBays as needed	Website urls	Q1
Provide regular reporting on progress under scope of work	Quarterly report for MC quarterly meetings	Q1-Q4

Outcome: Improved Habitat Continuity and Hydrology

Task 4	Tide Gate Management and Outreach	
Description/Objective	Conduct 1:1 municipal tide gate outreach in tandem with CZM North Shore regional coordinator	
SSCW Actions	Deliverables	Timing (Q1 - 4)
Schedule and attend meetings with municipal staff	Presentation/tech transfer materials shared with municipalities, list of meetings.	Q1
Glean information from local contacts re: tide gate conditions and management	Updated information for Massachusetts tide gate inventory	Q2
Work with municipalities and partners to improve infrastructure and/or management of specific tide gates	New O&M plans for tide gates	Q3, Q4

Outcome: Improved Water Quality

Task 5	Monitoring Plan for Salem Sound	
Description/Objective	Work with local stakeholders to formulate questions and design monitoring to generate quality data sets	
SSCW Actions	Deliverable	Timing (Q1 - 4)
Consult with organizations working in Salem Sound	determine gaps in capacity for documenting water quality	Q1
Work with MassBays Staff Scientist to develop a monitoring plan	draft monitoring plans	Q3
Assist in securing funding for water quality monitoring to provide new data	list of funding sources considered and pursued, letter(s) of support provided	Q4

Task 6	Bacteria monitoring	
Description/Objective	Continue citizen monitoring in coastal waters to identify hot spots and potential for remediation and source control.	
Actions	Deliverable	Timing (Q1 - 4)
Identify bacterial pollution with biweekly summer water testing for <i>Enterococcus</i> at outfalls and streams under SSCW's Clean Beaches & Streams	Bacterial levels for 14 - 18 outfalls or streams, results published on SSCW website	Q1
Conduct intensive study of bacterial sources using qPCR across Wolf Trap Marsh, Manchester	DNA source report	Q3

Conduct monthly water sampling for a DMF fecal coliform sanitary survey at 3 beaches, Manchester and Magnolia	submit sanitary survey to Mass DMF	Q4
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Task 7	Assessing Coastal Acidification in Massachusetts (South Shore, Central Staff, Lower North Shore)	
Description/Objective	(Ongoing) MassBays will continue to work with UMass Boston and EPA's Office of Research and Development to assess coastal acidification conditions in Duxbury Bay which is a center for shellfish aquaculture industry in Massachusetts; in the Lower North Shore, establish a citizen monitoring program to document pH and temperature in mud flat pore water.	
Actions	Deliverables	Timing (Q1 - 4)
Educate students, teachers and the public about ocean acidification (LNS, SS)	community lecture	Q4
Train volunteers to use Friends of Casco Bay protocol for monitoring (LNS)	list of citizen scientists, sample data collection sheet	Q2
Conduct monitoring at least three mudflats	summary of results, recommendations for following year	Q3
Share data with EPA OCA network, NECAN and other relevant groups	Participate in regular calls and webinars and provide updates.	Q3, Q4

Task 8	Quantifying Phytoplankton and Turbidity in Salem Harbor	
Description/Objective	Collaborate under a Healthy Estuaries grant to Salem State University to conduct water quality monitoring to determine phytoplankton community structure and provide a better understanding of forcings causing high biomass that has been documented to be responsible for increased turbidity in Salem Harbor. Data generated from this project and the conclusions reached will allow us to target specific remediation strategies for the improvement of Salem Sound's water.	
Actions	Deliverable	Timeline (Q1-4)
Selection monitoring sites and prepare QAPP	EPA-approved QAPP	Q1
Sample collection and analysis	quarterly interim reports	Q2-Q4
Plan and host a mid-grant expert solicitation in which we will invite appropriate local, state, and federal players to share knowledge and strategies	list of attendees and summary of outcomes	Q3
Develop remediation strategies	alternatives list and analysis	Q4
Plan and host a community lecture	agenda, sign-in sheet including subscribers to MassBays' e-newsletter	Q3

Task 9	Greenscapes Program	
Description/Objective	Create and disseminate outreach information, activities, and materials on stormwater management to <i>Greenscapes</i> member communities	
SSCW Actions	Deliverable	Timing (Q1 - 4)
Provide useful information (via webinars, lectures, personal assistance) on the new MS4 permit to communities	Needs assessment	Q2
Recruit communities for participation in program	list of participating communities	Q1
Prepare MS4 Notice of Intent (NOI) for 5-year Public Education and Outreach Plan	copy of NOI	Q1
Creation of outreach materials; website, workshops, handouts, presentations	copies, links to outreach products	ongoing
Provide outreach and education to support municipal stormwater management actions	Regional workshops on water quality and quantity issues	Q2, Q3
Empower and educate homeowners and businesses about water resources for reduced water bills and improved water quality and quantity.	Keeping Water Clean (KWC) school program; Greenscapes presentation: “Why Stormwater Matters,” “Greenscapes 101,” “Slow the Flow” or other agreed upon topic	ongoing

Task 10	Promote Low-Impact Development	
Description/Objective	Promote and implement Low Impact Development (LID) and stormwater green infrastructure in MassBays communities.	
SSCW Actions	Deliverable	Timeline (Q1-4)
Provide technical assistance and grant support	List of LID education & outreach efforts	Q4
Provide grant proposal scoping and writing support	Documentation of support provided	ongoing
Provide support for efforts to install LID and stormwater management projects	Implementation of at least one LID demonstration site in the Lower North Shore, and others as opportunities arise.	Q4
Maintain the Commercial Street rain gardens in Salem	Photodocumentation during storm/flood conditions	ongoing

Outcome: Resilient coastal habitat, including implementation of nature-based coastal protection measures

Task 11	Support municipal and regional actions that promote resilient coastal habitats and communities through the use of nature-based solutions	
Description/Objective	RC will continue to speak publically about necessity to protect habitat against storm/sea level rise impacts	
SSCW Actions	Deliverable	Timing (Q1 - 4)
Assistance to communities in planning MVP projects, attending MVP workshops	At least one case study write up on lessons learned for MassBays newsletter	Q2
Serve on Beverly's Harbor/Waterfront Advisory Committee, Manchester's Coastal Resiliency Advisory Group, MVP Nahant and Beverly	list of presentations made	Q4
	Letter of support for at least one proposal for implementation	Q3-Q4

Task 12	Marsh edge erosion monitoring	
Description/Objective	Conduct citizen science monitoring to record long-term climate change impacts on salt marshes from sea level rise, storm surge and other impacts	
SSCW Actions	Deliverable	Timing (Q1 - 4)
Document evolution of salt marsh deposition in Manchester	Photodocumentation of change observed from January 4, 2018 storm to present	Q2
Survey width and bank depth of Saratoga Creek, Good Harbor Gloucester	Summary of 4 years' monitoring	Q2
Conduct marsh edge erosion assessment at 2 sites in Salem.	Summary of all findings, lessons learned provided to CZM	Q4

Outcome: Restored Natural Communities

Task 13	Marine Invasive Species Monitoring	
Description/Objective	Monitoring established field sites for non-native species in cooperation with CZM	
SSCW Actions	Deliverable	Timing (Q1 - 4)
Conduct public outreach to increase understanding of the transport, population dynamics, and impacts of invasive species	list of publications and presentations	Q4
Organize and train volunteers	number of volunteers	Q1
Conduct monthly MIMIC monitoring July-October 2018, May-June 2019	Data submitted to CZM	Q2
Support CZM's marine invasives Rapid Assessment Survey	Receipts for travel	Q2
Conduct long-term monitoring of settle plates at the Beverly Pier to understand fouling organisms	photodocumentation	Q2

Task 14	Pepperweed Management and Control	
Description/Objective	(Ongoing) Treat selected pepperweed sites in Merrimack River, Newbury, and Ipswich marsh	
SSCW Actions	Deliverable	Timing (Q1 - 4)
Prioritize treatment areas (beaches, wharves, roadways and wetlands)	List/map of prioritized sites	Q1
Organize volunteers to pull pepperweed	number of volunteers	Q4
Working with partners, treat prioritized areas	Map of known pepperweed sites with list of areas monitored with status (presence-absence and removal actions)	Q3

Task 15	Adopt a Beach and Talking Trash for Clean Oceans	
Description/Objective	Work with the public and schools to build marine debris awareness and institute behavior changes	
SSCW Actions	Deliverable	Timeline (Q1-4)
Conduct <i>Adopt a Beach</i> trainings, support beachkeepers to conduct beach surveys and clean ups	List of training sessions and number of volunteers	Q1-Q2, Q3
Initiate community service projects that result in awareness and behavior changes	Number of Coastsweep and other clean up events held; litter reduction projects in cooperation with restaurants and local bag bans	Q3
Educate the public of the seriousness of plastic litter on land and in the oceans	List of publications and presentations	Q4

Outcome: Robust Interagency and Interdisciplinary Collaboration and Partnerships

Task 16	Represent MassBays to relevant networks	
Description/Objective	Convene and provide input to existing working groups on topics relevant to MassBays' desired outcomes	
SSCW Actions	Deliverables	Timing (Q1 - 4)
Identify and engage with networks conducting work relevant to and/or with the potential to advance CCMP implementation	List of networks	Q4

Outcome: Well-informed, multisector input to decisionmaking

Task 17	Expand MassBays' Audience (Central Staff, All Regions)	
Description/Objective	Engage diverse learners in watershed and coastal science education, bring new audiences to MassBays' mission	
SSCW Actions	Deliverable	Timing (Q1 - 4)
For all outreach efforts, facilitate new participation by underserved communities	list of accommodations made, sample notices to new audiences	Q1 - Q4
Host lecture series	List of speakers, new subscribers to MassBays e-newsletter	Q1-Q4